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Amendments to the Claims

What is claimed is:

1. (Currently amended) A method comprising:

acquiring an electromagnetic physiological signal;

filtering the signal for a latency range;

performing a source reconstruction for the signal, and using the source reconstruction to determine an appropriate latency range; and

refiltering, if needed, the signal at a different latency range;

performing a source reconstruction for the signal filtered for the different latency range, and using the source reconstruction to determine another appropriate latency range; and

repeating said performing, refiltering, and performing during an analysis procedure, with said performing and refiltering occurring at the same time.

2. (Original) The method of claim 1, wherein the step of performing the source reconstruction includes computing a single equivalent current dipole.

3. (Original) The method of claim 1, wherein the step of performing the source reconstruction includes computing a moving dipole.

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4. (Original) The method of claim 1, wherein the step of performing the source reconstruction includes computing a rotating dipole.
5. (Original) The method of claim 1, wherein the step of performing the source reconstruction includes computing a regional dipole.
6. (Original) The method of claim 1, wherein the step of performing the source reconstruction includes computing a fixed dipole.
7. (Original) The method of claim 1, wherein the step of performing the source reconstruction includes using a concentric sphere volume conductor model.
8. (Original) The method of claim 1, wherein the step of performing the source reconstruction includes using a Boundary Element Method (BEM) volume conductor model.
9. (Original) The method of claim 1, wherein the step of performing the source reconstruction includes using a Finite Element Method (FEM) model.
10. (Original) The method of claim 1, and further comprising the step of averaging the filtered data.

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11. (Original) The method of claim 1, and further comprising the step of applying a dipole onto an anatomical image.
12. (Currently amended) The method of ~~claims~~ claim 1, and further comprising creating a scatter plot of dipole locations.
13. (Original) The method of claim 1, and further comprising a signal to noise analysis of the required neurophysiological data.
14. (Original) An apparatus comprising:
 - a sensor for acquiring an electromagnetic physiological signal;
 - a signal processing circuit in communication with the sensor; and
 - a processor in communication with the signal processing circuit and configured to support multiple threads of execution with one thread being a measurement module and a second thread being a source reconstruction module.
15. (Original) The apparatus of claim 14, and further comprising a display showing source reconstruction results overlayed onto anatomical data.
16. (Original) The apparatus of claim 14, wherein the sensor acquires MEG data.
17. (Original) The apparatus of claim 14, wherein the sensor acquires EEG data.

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18. (Original) The apparatus of claim 14, wherein the sensor acquires ECG data.
19. (Original) The apparatus of claim 14, wherein the sensor acquires MCG data.
20. (Previously amended) A method of testing comprising:
 - acquiring an electromagnetic physiological signal;
 - performing a source reconstruction of the electromagnetic physiological signal;
 - and
 - using the source reconstruction to modify the acquisition of a new electromagnetic physiological signals.